Promyde®
PROGRESSING POLYAMIDE

TECHNICAL DATA SHEET

B300 P2 G50

ISSUED: 04/03/2021 **ISO 9001 CERTIFIED**

Promyde B300 P2 G50 is a high flow Polyamide 6 injection moulding grade with 50% Glass fibre and heat stabilized.

PROPERTIES	CONDITIONS	TEST METHOD	UNITS	VALUES
PHYSICAL PROPERTIES				
Density	23 ºC	ISO 1183	g/cm^3	1,56
Moisture absorption	23 ºC / 50% r.h.	ISO 62	%	1,5
Water absorption	23 ºC / saturation in water	ISO 62	%	4,5
Flammability	1,5 mm	UL-94		HB
PROCESSING CONDITIONS				
Melt Volume rate	275ºC/5 kg	ISO 1133	cm^3/10 min	37
Spiral length vs. standard PA			%	> 80
Melt temperature, injection moulding			ºC	235-260
Mould temperature			ºC	40-80
Mould Shrinkage	Parallel Normal	ISO 294-4	%	0,3-0,35 0,4-0,45
MECHANICAL PROPERTIES				(dry/cond.)*
Tensile modulus	23 ºC, 1 mm/min	ISO 527-1-2	MPa	17.000 / 10.000
Tensile strength	23 ºC, 50 mm/min	ISO 527-1-2	MPa	230/ 160
Elongation at yield	23 ºC, 50 mm/min	ISO 527-1-2	%	- / -
Elongation at break	23 ºC, 50 mm/min	ISO 527-1-2	%	3 / 3,5
Flexural modulus	23 ºC, 2 mm/min	ISO 178	MPa	15.500 / 8.500
Flexural strength	23 ºC, 2 mm/min	ISO 178	MPa	370 / 195
Charpy unnotched impact strength	23ºC -30ºC	ISO 179/1eU	kJ/m^2	105 / 130 - / -
Charpy notched impact strength	23ºC -30ºC	ISO 179/1eA	kJ/m^2	20 / 30 - / -
THERMAL PROPERTIES				
Melting temperature (DSC)	10ºC/min	ISO 3146	ºC	222
Heat Deflection Temperature (HDT)	1,8 MPa 0,45 MPa	ISO 75-1-2	ºC	215 215
Thermal coefficient of linear expansion	23-85ºC long. 23-85ºC transv.	ISO 11359-1/-2	10^{-4}/K	0,13 0,50
ELECTRICAL PROPERTIES				(dry/cond.)*
Dielectric constant	1MHz	IEC 60250		4,2 / 6,3
Dissipation factor	1 MHz	IEC 60250		140 / 1.400
Volume resistivity		IEC 60093	Ω.m	10^{13} / 10^{10}
Surface resistivity		IEC 60093	Ω	10^{13} / 10^{10}
Comparative tracking index		IEC 60112		500

* dry = dry as moulded / cond.= conditioned according to ISO 1110

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CHARACTERISTICS

The outstanding flow properties of Promyde B300 P2 G50 allow a reduction in molding temperature. This has two advantages: the cycle time is shorter and less energy is needed in injection molding. Because Promyde B300 P2 G50 has better flow, lower injection pressure is needed which reduces the clamping force, longer flow paths are possible and the mold is easier to design.

APPLICATIONS

The flow properties of Promyde B300 P2 G50 combined with its excellent mechanical and thermal properties make it suitable for a **wide range of industrial, automotive and electrical applications, especially in long flow path and thin wall parts.**

Glass-fibre reinforced grades are suitable for housings, supports, industrial articles and electrical insulating parts.

FORMAT AND STORAGE

Promyde B300 P2 G50 is supplied in moisture-proof packaging. Typical formats are Big Bag, octabin, and 25kg bags.
All containers are perfectly sealed. The product should be stored in a dry place and opened just before processing.

PROCESSING GUIDELINES

Drying

Material is supplied ready to process with low moisture content. When moisture absorption is prevented drying is not required. When drying is necessary, conditions are:

Drying temperature ≤ 80 ºC

Dying time: 4-6 hours

Injection moulding

The recommended processing parameters for injection moulding are:

Melt temperature: 235-260ºC

Mould temperature: 40-80 ºC

Injection speed: medium to high

Back pressure: moderate

Shrinkage

The shrinkage of a moulded part is influenced by wall thickness, mould gating, and moulding conditions.

Moisture

A particular characteristic of reinforced polyamide 6 is its combination of moderate tensile and flexural strength with rigidity, good impact strength, and friction resistance. However, when a moulded part absorbs moisture, tensile and flexural strength decrease and toughness increases.

NOTE

All recommendations are based on knowledge and experience; The values have been established on standardized tests. The figures should be regarded as guide values and not as binding minimum values. As many factors may affect processing or applications, we recommend that customers make their own tests to determine the suitability of a product for its particular use.

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